

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

Claim 1 (Previously Presented): A method of preparing titanium aquo-oxo chloride comprising hydrolyzing  $\text{TiOCl}_2$  in an atmosphere with a moisture content is maintained between 50 and 60% or by an alkali metal carbonate  $\text{A}_2\text{CO}_3$ .

Claim 2 (Previously Presented): The method as claimed in claim 1, wherein the  $\text{TiOCl}_2$  is in the form of an aqueous  $\text{TiOCl}_2 \cdot y\text{HCl}$  solution.

Claim 3 (Currently Amended): The method as claimed in claim 2, wherein the aqueous  $\text{TiOCl}_2 \cdot y\text{HCl}$  solution has an ~~HCL~~ HCl concentration of about 2M.

Claim 4 (Previously Presented): The method as claimed in claim 2, wherein the  $\text{TiOCl}_2 \cdot y\text{HCl}$  concentration is between 4M and 5.5M.

Claim 5 (Previously Presented): The method as claimed in claim 2, wherein the  $\text{TiOCl}_2 \cdot y\text{HCl}$  solution is placed at room temperature above an  $\text{H}_2\text{SO}_4/\text{H}_2\text{O}$  mixture in respective amounts such that the relative humidity is around 50 to 60% and left in contact therewith for about five weeks.

Claim 6 (Currently Amended): ~~The method as claimed in claim 1~~ A method of preparing titanium aquo-oxo chloride comprising hydrolyzing  $\text{TiOCl}_2$  in an atmosphere with a moisture content is maintained between 50 and 60% or by an alkali metal carbonate  $\text{A}_2\text{CO}_3$ , wherein a  $\text{TiOCl}_2 \cdot y\text{HCl}$  solution is brought into contact at room temperature with an alkali metal carbonate  $\text{A}_2\text{CO}_3$  in respective amounts such that the Ti/A ratio is  $4 \pm 0.5$  and left in contact therewith for 48 to 72 hours.

Claim 7 (Previously Presented): The method as claimed in claim 6, wherein  $\text{Ti/A} = 4 \pm 0.1$ .

Claim 8 (Withdrawn): A titanium aquo-oxo chloride in the form of crystals having the following composition by weight: 26.91% Ti; 21.36% Cl; and 4.41% H, which corresponds to the formula  $[\text{Ti}_8\text{O}_{12}(\text{H}_2\text{O})_{24}]\text{Cl}_8 \cdot \text{HCl} \cdot 7\text{H}_2\text{O}$ , wherein it has a monoclinic structure with the following monoclinic cell parameters:  $a = 20,3152(11) \text{ \AA}$ ,  $b = 11.718(7) \text{ \AA}$ ,  $c = 24.2606(16) \text{ \AA}$ ,  $\beta = 111.136(7)$ , and the Cc symmetry group.

Claim 9 (Withdrawn): The titanium aquo-oxo chloride in the form of crystals as claimed in claim 8, wherein it is formed from monodisperse particles in a polar solvent.

Claim 10 (Withdrawn): The titanium aquo-oxo chloride as claimed in claim 9, wherein said particles have a hydrodynamic diameter centered around 2.2 nm.

Claim 11 (Withdrawn): The titanium aquo-oxo chloride as claimed in claim 8, wherein it is in the form of a thin film on a substrate.

Claim 12 (Withdrawn): The titanium aquo-oxo chloride as claimed in claim 11, wherein the substrate is made of glass.

Claim 13 (Withdrawn): A semiconductor element wherein it is formed by a titanium aquo-oxo chloride as claimed in claim 11.

Claim 14 (Withdrawn): A method of purifying air by photocatalysis, wherein the catalyst is a titanium aquo-oxo chloride as claimed in claim 11.

Claim 15 (Withdrawn): A method of purifying aqueous effluents by photocatalysis, wherein the catalyst is a titanium aquo-oxo chloride as claimed in claim 11.

Claim 16 (Withdrawn): A semiconductor element wherein it is formed by a titanium aquo-oxo chloride as claimed in claim 12.

Claim 17 (Withdrawn): A method of purifying air by photocatalysis, wherein the catalyst is a titanium aquo-oxo chloride as claimed in claim 12.

Claim 18 (Withdrawn): A method of purifying aqueous effluents by photocatalysis, wherein the catalyst is a titanium aquo-oxo chloride as claimed in claim 12.